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CLAIMS

What is claimed is:

1. An improved airspring (10) comprising a flexible cylindrical sleeve (14) secured at opposing ends, and first and second retainers (12, 26), the sleeve being secured at a first end to one of the retainers (12 or 26), and at the opposing end to other retainer (26 or 12), the improvement being characterized by:

one of the retainers (26) having an integral bumper-contact surface (52) within the sleeve (14) for axial movement into the sleeve (14), for contact with the other retainer (12), and for absorbing and transmitting forces generated from such contact.

2. An improved airspring (10) in accordance with claim 1 wherein the retainer (26) having an integral bumper-contact surface (52) is comprised of support ribs (34, 40, 42, 44, 48).

3. An improved airspring (10) in accordance with claim 2 wherein the support ribs are substantially radially extending (42, 48).

4. An improved airspring (10) in accordance with claim 2 wherein the support ribs are a series of concentrically disposed ribs (34, 40, 44).

5. An improved airspring (10) in accordance with claim 1 wherein the retainer (26) having an integral bumper-contact surface (52) is defined by a first axially outer surface (52) which extends into the airspring sleeve (14) and a second axially outer surface (50) which extends into the airspring sleeve (14), the axially outermost of the two surfaces being the bumper-contact surface (52) and the axial difference between the two surfaces being greater than zero to separate the two surfaces by a dimension (b). *Attachment # 1*

6. An improved airspring (10) in accordance with claim 5 wherein the retainer (26) having an integral bumper-contact surface (52) has an axial height (H) as measured from the axially outer most surface (52) to the axially innermost surface, and the surface-separation dimension (b) is 20 to 80% of the retainer height (H). *as shown fig. 7*

7. An improved airspring (10) in accordance with claim 1 wherein the airspring (10) further comprises a piston (28) and the flexible sleeve (14) is comprised of a bead ring (24) at one end, the

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*fig. 1*  
*6*  
*25*

*103*  
*add*  
*well*  
*known*

bead ring (24) being secured between the retainer (26) having an integral bumper-contact surface (52) and the piston (28).

5 8. An improved airspring (10) in accordance with claim 1 wherein the retainer (26) having an integral bumper-contact surface (52) is formed from a thermoplastic material having a tensile strength in the range of 28,000 to 45,000 psi, and a flex strength in the range of 40,000 to 60,000 psi.

10 9. An improved airspring (10) in accordance with claim 8 wherein the retainer (26) is formed from a material selected from the following group: fiberglass reinforced nylon, long fiber reinforced thermoplastic, and short fiber reinforced thermoplastic.

*design  
feature*

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